

TECHNICAL ARTICLE

"The Impact of E-Pharmacy on Traditional Pharmacy In India" Ms. Soniya Bhojwani

B. Pharm IV Year

The rise of e-pharmacies in India has had a significant impact on traditional brickand-mortar pharmacies. This impact can be both positive and negative, depending on various factors.

[A] Challenges Faced by Traditional Pharmacies are:

1. Competition and Market Disruption

-Increased Competition: E-pharmacies have introduced stiff competition for traditional pharmacies by offering discounts, convenience, and a wider range of products. This has forced many traditional pharmacies to rethink their business models.

- Price Wars: E-pharmacies often offer medications at discounted prices, which traditional pharmacies find hard to match due to their lower margins and higher operational costs.

2. Customer Convenience

- 24/7 Availability: E-pharmacies provide round-the-clock access to medicines, which is a significant advantage over traditional pharmacies that typically operate within fixed hours.

Home Delivery: The ability to deliver medications directly to customers' homes is a major convenience factor that traditional pharmacies struggle to compete with.
Regulatory and Legal Challenges

- Regulatory Scrutiny: E-pharmacies have been under significant regulatory scrutiny regarding the sale of prescription drugs, data privacy, and the authenticity of medicines. This has sometimes worked in favor of traditional pharmacies, which are more established and familiar with local regulations.

- Impact on Jobs: The rise of e-pharmacies has raised concerns about job losses in traditional pharmacies, especially small and independent ones, as they might not be able to compete with the technological and logistical advantages of larger e-pharmacies.

4. Technological Integration

- Digital Presence: Some traditional pharmacies have started integrating technology by partnering with e-pharmacy platforms or developing their own digital solutions to remain competitive.

- Customer Relationship Management: E-pharmacies have advanced CRM tools to track customer preferences, which gives them an edge in personalized service compared to many traditional pharmacies that rely on in-person interactions.

5. Consumer Behavior Shift

- Changing Consumer Preferences: Consumers, especially younger generations, are increasingly opting for online solutions due to the convenience and time savings, impacting foot traffic to traditional pharmacies.

- Trust Issues: Despite the convenience, some customers still prefer traditional pharmacies due to trust in pharmacists' advice and the authenticity of medicines.

6. Supply Chain and Distribution

- Streamlined Supply Chain: E-pharmacies often have more efficient supply chains, allowing them to maintain a broader inventory and avoid stockouts, which can be a challenge for smaller traditional pharmacies.

- Bulk Purchases: E-pharmacies benefit from economies of scale, enabling them to purchase in bulk at lower prices, which is an advantage over [B] Opportunities for Traditional Pharmacies

However, the rise of e-pharmacies also presents opportunities for traditional pharmacies to innovate and adapt. Many have started offering value-added services such as personalized consultations, home delivery, and wellness programs to differentiate themselves from online competitors. Collaborating with e-pharmacy platforms is another strategy, allowing traditional pharmacies to expand their reach and benefit from the growing online market.

Additionally, traditional pharmacies still hold an advantage in terms of trust and the personal relationships they have built with their customers over the years. The immediate availability of medicines and the ability to offer quick advice are aspects that e-pharmacies may struggle to match.

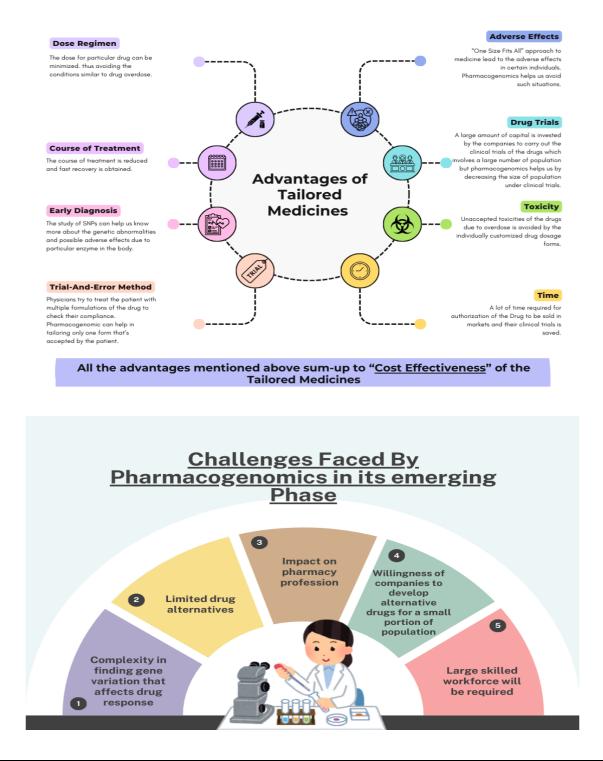
In conclusion, while e-pharmacies have undoubtedly disrupted the traditional pharmacy market in India, they also present an opportunity for these businesses to evolve. By embracing technology, offering personalized services, and maintaining strong customer relationships, traditional pharmacies can continue to thrive in this changing landscape. The future of the pharmaceutical industry in India will likely see a coexistence of both models, with each catering to different customer needs.

Pharmacogenomics: The Era of Tailored Medicine Ms. Renuka Kale

B. Pharm IV Year

As we advance into an era where customization is paramount, the "One Size Fits All" approach to medicine is outdated. We are tired of the "Trial and Error" methods employed in medicine where either the dose is too much or the tolerance is genetically greater. Just like the readymade clothes, either tight or loose. What we expect today in pharma sector is the development of medicines which are highly effective, cost efficient, and with least or no adverse effects. Pharmacogenomics is a newly emerged branch in pharmacy which works by combining the microbiology, genetic studies, chemical analysis and many other factors in order to create a drug dose which is individual-specific. As we know, even the minute changes in the sequences of the nucleotides act as an obstacle in treating various conditions, may it be because of high tolerance of that individual towards the drug or due to the structural differences in the genetic material. Mostly the high tolerances lead to increased doses by almost 40fold in anti-hypertensive drug like propranolol, 20-fold for the warfarin and by 60-fold for L-dopa for Parkinson's disease. These increased doses can lead to toxicities and adverse effects. And as the age-old saying suggests, "Prevention is Better than Cure", it's better to prevent these toxic and adverse reactions by tailoring the drugs according to the individual genetic make-up or by navigating the deep woods of single nucleotide polymorphism (SNPs) to detect various conditions of individual body. The tailored medicines lead to an overall decrease in the cost of health care.

The drug metabolism and response is highly affected by the impact of genetic variations, of which- CYP450 (Cytochrome P450) enzymes and TPMT (Thiopurine methyltransferase) are the key examples. The genetic variations in the enzyme CYP450 can lead to variations in the metabolism and bioavailability of the drug. While TPMT is the enzyme which helps to break down the anti-cancer drugs and those used for treating immune diseases. People with less amount of TPMT enzymes in their bodies end up with serious side effects caused due to the accumulation of these drugs in their bodies. The doctors can tailor the the medicine dose according to the genetic make-up of that particular individual by performing the tests to identify the gene types of that individual. But there are many challenges faced by the new emerging field.



Thus, pharmacogenomics help us to understand the genetic variation and to treat the medical conditions with more precision with in a less time-frame. The integration of pharmacogenomics could be seen as a transformative paradigm for the future of healthcare, revolutionizing the medical sector.

The future prospects of biological drugs Kalpana Yadav

B. Pharm 4th year

Biological drugs, also known as biologics, represent a cutting-edge frontier in pharmaceuticals. Biological drugs, or biologics, are a fascinating and rapidly evolving area of medicine. These drugs are derived from living organisms and are used to treat a variety of conditions that traditional synthetic drugs may not effectively address. They include a wide range of products such as: Monoclonal Antibodies: These are engineered proteins that can bind to specific targets in the body, such as cancer cells, to help the immune system destroy them.

Vaccines: Used to prevent infectious diseases by stimulating the immune system to recognize and fight pathogens.

Gene Therapies: These involve modifying or manipulating genes to treat or prevent diseases.

Cell Therapies: These include treatments like stem cell therapy, where cells are used to repair or replace damaged tissues.

Insulin: A hormone used to manage diabetes, produced using recombinant DNA technology

Future Prospects

1. Technological Advancements: Advances in technology, such as automation and AI, are expected to drive the development and manufacturing of biologics. These technologies can streamline processes, reduce costs, and improve the scalability of production.

2. Economic Impact: The biologics market is projected to grow significantly, potentially reaching \$719 billion by 2030. This growth is driven by the high efficacy and selectivity of biologics, which have shown to significantly improve patient outcomes.

3. Accessibility: While biologics are currently expensive due to the complex technology required for their production, future advancements are expected to make these drugs more accessible. This includes the development of biosimilars, which are more affordable versions of original biologic drugs.

4. Challenges: Despite the promising future, there are challenges to overcome. These include the translatability of preclinical data to human patients and the manufacturability of complex biologic structures. The future of biologics is promising, with ongoing research aimed at improving their efficacy, reducing costs, and expanding their use. Innovations in biotechnology, such as CRISPR gene editing and advanced cell culture techniques are expected to drive the development of new biologic therapies.

5. Personalized Medicine: The future of biologics in India also includes the development of personalized medicine, where treatments are tailored to individual

patients based on their genetic profiles. This approach promises to improve treatment outcomes and reduce side effects. The future of biological medicines in India is bright, significant growth potential, ongoing innovation, and increasing global with competitiveness. The continued support from the government and advancements in biotechnology will play a crucial role in shaping this future. The development of oral and topical biologics holds tremendous potential to simplify biologics administration, potentially reducing production costs significantly. Innovations such as plant-cellencapsulated proteins are under exploration for their ability to treat a range of conditions without the need for cold storage, making biologic treatments more accessible and cost-effective. Topical biologics are innovative because they deliver potent drugs precisely where needed without entering the bloodstream. Oral biologics offer a clever approach, using plant cells to encapsulate the drug, which helps reduce the immune system's production of unwanted antibodies, crucial for keeping gene therapy costs manageable. There's promising research ahead. For example, plant-cellencapsulated proteins are being developed for treating heart and lung diseases, regulating blood sugar like natural insulin, and speeding up bone healing in diabetics. These innovations could transform treatment options, making them more accessible and affordable. Biological drugs represent a significant advancement in medical science, offering hope for more effective and personalized treatments. As research and technology continue to evolve, biologics are likely to play an increasingly important role in healthcare.

The future of Personalized medicine: Emerging trends and technologies in personalized medicine, including biomarker discovery, companion diagnostics, and patient-specific treatment strategies Mr. Prajwal Mundhe

B. Pharm II year

In recent years, the landscape of healthcare has been profoundly shaped by the advent of personalized medicine. This innovative approach acknowledges that each patient is unique, and their medical treatment should reflect individual genetic, biological, and lifestyle factors. As we delve into the future of personalized medicine, several key trends and technologies are poised to revolutionize healthcare delivery.

1. Biomarker Discovery: Biomarkers, which are measurable indicators of biological processes or responses to treatment, play a crucial role in personalized medicine. Advances in genomic sequencing and bioinformatics have enabled the identification of specific biomarkers that can predict disease susceptibility, progression, and treatment response with unprecedented accuracy. Example: The use of genetic markers in oncology to tailor cancer therapies based on tumor genetic mutations.

2. Companion Diagnostics: Companion diagnostics are tests used to identify patients who are most likely to benefit from a particular treatment. These tests analyze biomarkers and genetic profiles to ensure that treatments are targeted and effective, minimizing

adverse reactions and optimizing therapeutic outcomes. Example: The FDA's approval of companion diagnostic tests alongside targeted therapies like Herceptin for breast cancer patients with HER2-positive tumors.

3. Patient-Specific Treatment Strategies: Personalized medicine goes beyond diagnostics; it encompasses patient-specific treatent plans that consider genetic variations, biomarker profiles, and individual responses to therapies. This approach aims to maximize treatment efficacy while minimizing side effects, leading to improved patient outcomes and quality of life. Example: Pharmacogenomics studies that guide the selection and dosage of medications based on an individual's genetic makeup to enhance treatment precision.

4. Explanations of Key Terms:

Genomic Sequencing: This involves determining the order of DNA nucleotides in a person's genome, providing insights into genetic variations that can influence health and disease.

Bioinformatics: It combines biology, computer science, and information technology to analyze biological data, including genomic data, to uncover patterns and relationships.

Challenges and Considerations:

Despite its promise, personalized medicine faces challenges such as the high cost of genetic testing, ethical concerns surrounding data privacy, and the complexity of interpreting genomic data. Overcoming these hurdles will be essential for the widespread adoption of personalized medicine in clinical practice.

Future Directions: Looking ahead, advancements in technologies like AI-driven analytics, CRISPR gene editing, and wearable health monitors are set to further enhance the scope and efficacy of personalized medicine. These innovations hold the potential to transform healthcare delivery by offering tailored treatments that are as unique as each patient.

AI-driven Analytics: Artificial intelligence algorithms that analyze large datasets to identify patterns in patient data, aiding in personalized treatment decisions.

CRISPR Gene Editing: A revolutionary technology that allows precise modification of genetic material, offering potential treatments for genetic disorders and personalized therapies.

Conclusion:

In conclusion, personalized medicine represents a paradigm shift in healthcare, moving from a reactive to a proactive approach that prioritizes individual patient needs. As we harness the power of genomics and advanced technologies, the future holds promise for personalized medicine to revolutionize disease prevention, diagnosis, and treatment on a global scale.

ACCOLADES/ACHIEVEMENTS

- Mrs. Shobha Alok Ubgade, Assistant Professor, Department of Pharmaceutics, was awarded PhD degree by Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur on 1 September 2023 vide University Notification. She completed her research work under the able guidance of Dr. Vaishali Kilor and title of the thesis was 'Development of Pharmaceutical Nanosuspension for Improved Stability & Bioavailability'. The Degree of Philosophy was conferred upon her in the 111th Convocation of RTMNU held on 2 December 2023.
- Mr. Keshav S. Moharir, Asst. Professor, Gurunanak college of pharmacy, Nagpur was awarded with PhD degree by Rashtrasant Tukadoji maharaj, Nagpur University, Nagpur. He completed research work under guidance of Dr. Vinita Kale on the topic "Development of Nanocellulose Material from Non-conventional source and preparation of composite polymeric Matrix for Encapsulation of Compounds." The Degree of Philosophy was conferred upon him in the 111th Convocation of RTMNU held on 2 December 2023
- Mr. Krishnakant B. Bhelkar, Asst. Professor, Gurunanak college of pharmacy, Nagpur was awarded with PhD degree by Rashtrasant Tukadoji maharaj, Nagpur University, Nagpur. He completed research work under guidance of Dr. Vinita Kale on the topic "Studies on Development and Application of Superabsorbent Hydrogel from Natural Polymers for Wound Dressing". The Degree of Philosophy was conferred upon him in the 111th Convocation of RTMNU held on 2 December 2023.
- Mr. Vipinchandra B. Pande was awarded PhD degree on 02 Apr, 2024 by Mandsaur university, Mandsaur (M. P.). He completed his research work on topic Developmment and Evaluation Of Polyherbal Formulation for Its Therapeutic Potential against Diabetes Mellitus, under the guidance of Dr. Vishal Soni, (Professor), B R Nahta college of pharmacy, Mandsaur, and Dr. Saket Singh Chandel, (Professor), Dr. C. V. Raman Institute of Pharmacy, Bilaspur.
- Mr. Sharad R. Manapure, Asst. Professor, Gurunanak college of pharmacy, Nagpur was awarded with PhD degree by Rashtrasant Tukadoji maharaj, Nagpur University, Nagpur on 7th May 2024. He completed research work under guidance of Dr. A. M. Ittadwar on the topic "Phytochemical and pharmacological evaluation of *Ipomoea reniformis* Chois for anticancer activity".
- Mr. Tirupati M. Rasala was awarded PhD degree in Aug 2023 from Institute of Pharmaceutical Science and Research, Sardar Patel University, Balaghat, M.P. He has completed his research work on topic Design and development of nutraceutical formulation using QbD approach. He was guided by Dr. Rajesh Mujariya and Dr. Abhay Ittadwar.

Dr. Keshav S. Moharir Asst. professor, Department of Pharmaceutics, won the **first position** in technology pitching session at Polymer Technology Connect 2023 at Kalinga Institute of Industrial Technology (KIIT), Bhubaneshwar. Dr. Moharir presented his research on 'Biodegradable and Moisture Resistant Nanocellulose-PVA Composite Films containing Orange Oil'. The award was comprised of Cash Prize of Rs. 3000 from Springer-Nature Publishers and of 150 Euros from American Chemical Society.



Mr. Abhishek Joshi, M. Pharm SEM-III (Pharmaceutics) secured **3rd prize** in the Oral Presentation on the topic "Mechanism of action of hesperidine and Diosmine in the treatment of varicose veins" at the 14th Annual Conference of SAC-ACCP on "Role of Clinical Pharmacology in the Development of Transformative Medicines in This Era of Digital and Artificial Intelligence Technologies" held on 5th and 6th January 2024 at Hyderabad.



Ms. Priya Dule, Ph.D. Scholar, Gurunanak College of Pharmacy, Nagpur received **Best paper presentation award** for the paper entitled 'The application of quality by design (qbd) approach in the formulation and optimization of oral films' in the Recent Advances In Science, Technology, Engineering, Management And Social Science (RASTEMS-2023) (online) organised by New Research and Innovation Society in association with Addis Ababa Science and Technology University, Biotechnology and Bioprocess Centre of Excellence, Ethiopia and Karpaga Vinayaga College of Engineering and Technology, Chengalpattu, India held during, 06-08, October, 2023.

Sr.	Name of student	Percentile	Sr. No.	Name of student	Percentile
No.		Score			Score
01	Ms. Madhumati Manem	98.34	10	Ms. Shweta Dhongade	92.09
02	Ms. Mariya Amravatiwala	98.31	11	Ms. Sheherbano Husain	92.02
03	Mr. Amaan Sheikh	96.97	12	Mr. Priyanshu Lade	89.43
04	Ms. Sarpreet Kaur	96.61	13	Mr. Aditya Bagde	88.00
	Multani				
05	Mr. Tushar Kapsikar	96.48	14	Ms. Divyani Dahake	84.00
06	Ms. Lata Motwani	95.53	15	Mr. Shreyas Madavi	75.98
07	Ms. Mansi Malewar	95.04	16	Ms. Kashish Makode	75.59
08	Ms. Pallavi Virulkar	94.69	17	Ms. Kashish Uikey	73.75
09	Ms. Parul Babhulkar	94.10			

GPAT - 2024 Qualifiers

RTMNU B. Pharm Result (Winter 2023 and Summer 2024)

Class S		Sem	% Result	Topper (% Score)	
Β.	Pharm.	VIII	87.67%	1) Ruchika Nandvijay Bire: (434/550) (78.90%) 2) Mariya Ismail Kasim Ali Amravatiwala: (432/550) (78.54%) 3) Aishwarya U. Mohnani: (429/550) (78%)	
Β.	Pharm.	VII	78.37%	1) Mrunali S. Karemore:- 481/600 (80.16%) 2) Mariya Ismail Amravatiwala:- 474/600 (79%) 2) Rutuja G. Raghorte:- 474/600 (79%) 3) Lokesh V. Agrawal:- 462/600(77%)	
Β.	Pharm.	VI	80%	1) Sarpreet Kaur Gurpreet Singh Multani:- (653/750) (87.06%) 2) Pallavi Sanjay Virulkar:- (618/750) (82.4%) 3) M. Madhumathi M. shriniwas Rao:- (612/750) (81.6%)	
Β.	Pharm.	V Sem	75.71%	1) Sarpreetkaur G. Multani:- (546/650)(84%) 2) M. Madhumathi M. Shriniwas Rao:- (516/650)(79.38%) 3) Lata Hero Motwani:- (504/650)(77.53%)	
Β.	Pharm.	IV	61.60%	1) Vishakha Laxman Rathod:- (549/700) (78.42%) 2) Avadhi Rajesh Gumgaonkar:- (548/700)(78.28%) 3) Rohit Ganesh Bhonde:- (541/700)(77.28 %)	
Β.	Pharm.	III	73.80%	1) Vaidehi L. Verma:- (460/600) (76.66%) 2) Utkarsh Ramesh Mule:- (459/600) (76.5%) 3) Vanshika R. Jaiswal:- (458/600)(76%)	
Β.	Pharm.	II	58.09%	1) Karan Ganpat Parate :- 574 /725 (79.17%) 2) Manthan Madhav Shrirao :- 567 /725 (78.20%) 3) Himanshi Suresh Zade :- 561 /725 (77.37%)	

INDOCTRINATE IQAC - Newsletter-24, June 2024

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B. Pharm.		57.79%	1) Gauri Rajendra Dhawale:- (553/725)(76.27%) 2) Manthan Madhav shrirao:- (543/725)(74.89%) 3) Meet Pawan Chordiya:- (527/725)(72.68%)
M. Pharm (Pharmaceutics)	IV Sem	100%	1. Apurva S. Fasate:-440 /500 (88%) 2. Abhijeet J. Shinde:-438 /500 (87.6%) 3. Ankita M. Shahu:- 437/500 (87.4%)
M. Pharm (Pharmaceutics)	III Sem	100%	1) Abhishek Bhalchandra Joshi:- 444/525 (84.57%) 2) Apurva Sunil Fasate:- 443/525 (84.38%) 3) Ayushi Prabhakar Choudhary:- 431/525 (82.09%)
M. Pharm (Pharmaceutics)	II Sem	93.33%	1) Mayuri Sudhakar Bodhe:- 487/650 (74.92%) 2) Darshana Khanderao Patale:- 481 /650 (74%) 3) Vishwalini Chudaman Rangari:- 478 /650 (73.53%) 3) Ritik Kishor Bobde:- 478/650 (73.53%)
M. Pharm (Pharmaceutics)	I Sem	93.33%	1) Mayuri Sudhakar Bodhe:- 490/650 (75.38%) 2) Yogita Suresh Dakhole:- 487/650 (74.92%) 3) Ritik Kishor Bobde:- 480/650 (73.84%)
M. Pharm (Q. Assurance)	IV Sem	100%	1. Shivam S. Domkundwar:- 446/500 (89.2%) 2. Sakshi B. Bhandekar:- 445/500 (89%) 2. Sakshi G. Channe:- 445/500 (89%) 3. Meenal Raju Watkar:- 433/500 (86.6%)
M. Pharm (Q. Assurance)	III Sem	100%	1) Sakshi Babarao Bhandekar:- 451/525 (85.90%) 2) Sakshi Ganesh Channe:- 448/525 (85.33%) 3) Meenal Raju Watkar:- 441/525 (84%)
M. Pharm (Q. Assurance)	II Sem	81.25%	1) Aakanksha Vasant Thakur:- 501 /650 (77.07%) 2) Tejaswini Munna Gupta:- 491 /650 (75.53%) 3) Shruti Jawaharlal Jaisingpure:- 474/650 (72.92%)
M. Pharm (Q. Assurance)	I Sem	81.25%	1) Tejaswini Munna Gupta:- 502 /650 (77.23%) 2) Chintan Mahesh Rajurkar:-486 /650 (74.76%) 3) Aakanksha Vasant Thakur:-474 /650 (72.92%)
M. Pharm (Pharm. Chemistry)	IV Sem	100%	1. Kunjan D. Faye:- 456/500 (91.2%) 2. Janhavi H. Indurkar:- 453/500 (90.6%) 3. Shruti M. Khandekar:- 438/500 (87.6%)
M. Pharm (Pharm. Chemistry)	III Sem	100%	1) Kunjan Dilip Faye:- 428/525 (81.52%) 2) Janhavi Harish Indurkar:- 424/525 (80.76%) 3) Shruti Mahendra Khandekar:- 373/525 (71.04)
M. Pharm (Pharm. Chemistry)	II Sem	90%	1) Pranjali Prabhakar Kapgate:- 481/650 (74%) 2) Avanti Kiranrao Girdekar:- 469/650 (72.15%) 3) Aishwarya Umeshkumar Mohnani:- 465/650 (71.53%)
M. Pharm (Pharm. Chemistry)	I Sem	100%	1) Pranjali Prabhakar Kapgate:- 504/650 (77.53%) 2) Lokesh Gulabrao Makode:- 485/650 (74.61%) 3) Priyanshi Ritesh Sahu:- 477/650 (73.38%)

	· PLACEMENTS ·						
No. of Students	Name of the company	Department					
M. Pharm							
02	Maclodes Pharma LTD.	Production, QC/QA					
02	Zim Laboratories LTD.Kalmeshwar	QC/QA					
01	Royal Gondwana College Of Pharmacy,Nagpur	Assistant Professor					
01	Cognizant Technologies LTD, Pune	Pharmacovigilance					
01	Syneous Health LTD, Gurgaon	Pharmacovigilance & Clinical Trial					
01	Optum Health and Technology (INDIA) PVT.LTD, Mumbai	Pharmacovigilance & Clinical Trial					
01	Credo Lifesciences, Hydrabad, Telangan	F&D					
	B. Pharm						
02	Unijules Pharma LTD, Hingna MIDC, Nagpur (Injectable Devision)	QA/QC					
01	Canvass Clinical Research Services, Nagpur	Clinical Research					
01	Nisha Herbals PVT.LTD, Nagpur	QA & Production					
01	Hetero Healthcare LTD, Hyderabad	Marketing					
01	Micro Labs LTD, Banglore	Marketing					
01	Mankind Pharma LTD, Mumbai	Marketing					
01	Himalaya Wellness LTD, Banglore	Marketing					
01	IPCA Laboratories LTD, Mumbai	Marketing					
01	Entero Healthcare Solutions PVT.LTD, Pune	Marketing					
01	Pearl Hospital Sita buldi Market - Nagpur	Hospital Mangement					
01	Eris Therapeutics LTD, Ahemadabad	Marketing					
01	Sai Darshan Medical Stores- Kamptee (Nagpur)	Registered Pharmacist					
01	Brooks Laboratories LTD, East Andheri Mumbai	Marketing					
01	MPCP Care PVT,LTD, Nagpur	Production & QC					

CERTIFICATE COURSE ON APPLICATION OF COMPUTATIONAL TECHNIQUES IN DRUG DESIGN AND DEVELOPMENT

Gurunanak College of Pharmacy, Nagpur, organized a five-day certificate course on "Applications of Computational Techniques in Drug Design & Discovery" from December 21st to 25th, 2023. The seminar was attended by 39 delegates, including B. Pharm students, M. Pharm students, faculty members, PhD scholars, and the Principal from various institutes.

The workshop featured Mr. Sapan K. Shah, Assistant Professor at J L Chaturvedi College of Pharmacy, Nagpur; Dr. Sumit K. Arora, Assistant Professor at Gurunanak College of Pharmacy, Nagpur; Dr. Subhash Yende, Assistant Professor at Gurunanak College of Pharmacy, Nagpur; and Dr. Vaishali Kilor, Associate Professor at Gurunanak College of Pharmacy, Nagpur, as resource persons and trainers.

Throughout the workshop, delegates acquired knowledge about the fundamentals of molecular docking, proteins, ligands, and relevant software applications. In silico molecular docking using Vina and Chimera Software was explored, encompassing the selection of proteins, ligands, preparation for docking, and the calculation of binding energies. Virtual screening and visualization techniques were also studied, utilizing various software, along with additional insights into ADMET properties. The resource persons also provided training on how to compile the acquired data into effective manuscripts.

All delegates received hands-on training, and their understanding was assessed through an evaluation comprising 100 marks. Dr. Abhay M. Ittadwar served as the convenor, and Dr. Nidhi Sapkal, Dr. Sumit Arora, and Dr. Subhash Yende acted as coordinators for the program.



CERTIFICATE COURSE IN "SKILL DEVELOPMENT IN ADVANCED SPECTROSCOPIC (NMR, MASS, UV, IR), THERMAL (DSC) AND SEPARATION (HPLC) TECHNIQUES"

Gurunanak College of Pharmacy in collaboration with Jeevan Shikshan Abhiyan under Board of life long Learning and Extension, RTM Nagpur University has organized certificate course in "Skill Development in Advanced spectroscopic (NMR, Mass, UV, IR), Thermal (DSC) and separation (HPLC) Techniques" from 22nd to 27 th April 2024. Around 50 participants from various colleges were benefited. The course was coordinated by Dr. Sheelpriya Walde, Dr. Suhas Padmane, Dr. Gulshan Gurunani.



SHORT TERM CERTIFICATE COURSE ON IPR

Gurunanak College of Pharmacy had conducted a Short Term Certificate Course of 2 credits in collaboration with PathtoIP, Pune on 'Intellectual Property Rights' in Hybrid mode from 11 to 16 September 2023. Around 50 participants registered for this course which provided them with comprehensive overview of IPR along with interesting assignments. The diverse category of participants included undergraduate, postgraduate and PhD scholars from pharmacy institutions across Nagpur.

This six day event started with Keynote Address by Dr. Sayali Kand, IP Counsel, BASF, Mumbai. Daily sessions delivered by Mrs Kawita Kanoje and Nidhi Agrawal from Pathto IP gave meaningful insights to the participants about different types of IPR, Patents, IP Infringement, Compulsory Licensing and many more. The entire course was designed and structured to match the needs of outcome based learning. Final day of the course witnessed presentation by participants as major assessment which was adjudged by Dr. Shagufta Khan, Professor, IPER, Wardha. The event was successful under able guidance of Principal Dr. Abhay Ittadwar and coordinated efforts of the organizing team.



EVENTS ORGANIZED

HAR GHAR TIRANGA ABHIYAN

The National Service Scheme Unit of Gurunanak College of Pharmacy has conducted The Har Ghar Tiranga Abhiyaan of Government of India in College Premises on 14th August at 12.00 pm. There was an appreciable Participation of NSS Volunteers, Students of B. Pharm and M. Pharm and staff members. This Abhiyaan was organized under the guidance of NSS Incharge Mr. Vipin B. Pande.



SWACHH BHARAT ABHIYAN

Community awareness campaign on Hygiene and Sanitation was organised by the National Service Scheme Unit of Gurunanak College of Pharmacy, Nagpur as the Nation focuses on Swachhata, the unit did the same! Total 70 volunteers have taken active participation in the drive and enthusiastically made the society and community people aware about the cleanliness, hygiene and sanitation. The campaign was run under guidance of NSS Incharge Mr. Vipin B. Pande



BLOOD DONATION ON WORLD PHARMACIST DAY

On the occasion of World Pharmacist Day, NSS unit of Gurunanak College of pharmacy, Nagpur in association with hedgewar blood centre organized blood donation camp on 25th September 2023. First the guest from Hedgewar blood centre was felicitated and opening ceremony was held. Total count of blood donors was 63 including teachers, non-teaching staff, students, alumni & others. V. B. Pande coordinated the event.



SWAMI VIVEKANAND JAYANTI CELEBRATION

The Gurunanak College of Pharmacy's NSS Unit celebrated Swami Vivekananda Jayanti on 12th January 2024. The celebration began with a short speech by the Dr. M. M. Bodhankar. She spoke about the values Swamiji incorporated in our society and how it has helped to shape India and its youth. She also urged the students to uphold these values and to be responsible citizens. 200 students witnessed this celebration.



PRAKASH UTSAV OF GURUNANAK DEVJI

All the students and staff of Gurunanak College of Pharmacy and Gurunanak Technical Institute celebrated "Prakash Utsav" of Gurunanak Devji on 3 January, 2024. The celebration begin with the arrival of holy book, "Guru Granth Sahib" followed by Kirtan and Ardaas at Sardarni Paramjeet Kaur Kalsi Auditorium. Students of GNCP and GNTI presented shabd in kirtan. The langar was served at the end of the program. All students served food during the langar and learned lessons of community service.



INDUCTION PROGRAM

The induction program of B. pharm Ist sem students was held from 11th to 16th September 2023, provided a comprehensive and well-structured orientation to help students transition smoothly into the institute's academic and cultural environment. The program began with a welcome address by the Principal, Dr. A.M. Ittadwar, emphasizing the importance of the induction in shaping students' academic and personal growth. Over the week, students were introduced to the institute's core values, policies, and resources through engaging sessions led by faculty members. These sessions covered essential topics such as institutional regulations, anti-ragging measures, gender equity, and student empowerment, while also highlighting the significance of facilities like libraries, laboratories, and student support systems. Activities like yoga, psychometric tests, and a talent hunt encouraged holistic development, and sessions on career counseling, employability, and the National Education Policy (NEP) aligned students with national academic standards and future opportunities. The program also included hands-on experiences, such as visits to medicinal plant gardens and laboratories, alongside expert-led sessions like "Campus to Corporate," which bridged academic learning with corporate expectations. Discussions on Universal Human Values (UHV), mentoring systems, and feedback mechanisms fostered personal growth and a sense of belonging. Concluding on a high note, the induction program successfully equipped students with the knowledge, skills, and resources to embark on their academic journey while fostering a vibrant and supportive community.

ORIENTATION PROGRAM M. PHARM SEM-III

Orientation Program for all the students (Pharmaceutics, Pharmaceutical Chemistry, Quality Assurance) of M. Pharm SEM-III was organized by program committee (P.G.) and IQAC from 31/07/2023 to 04/08/23. The program was conducted well before the submission of a synopsis on the research topic by the students with the objective of helping them understand the nature of their course, to guide them with the proper methods of literature search, to know the importance and conduction of preclinical studies, analytical studies, use of referencing tools, in the research. Dr. VA Kilor, Dr. NP Sapkal, Dr. SR Walde, Dr. AN Mungle, Mr. TM Rasala, Dr. GK Lohiya, Dr. SK Arora, Dr. SP Padmane, Dr. SR Yende, Mr. AM Ubgade and Mr. PS Admane provided guidance to all students.

GRATITUDE CEREMONY OF DR. A. M. ITTADWAR

The Student's Council of Gurunanak College of Pharmacy, Nagpur organized The Gratitude Ceremony of Dr. A. M. Ittadwar, Principal, Gurunanak College of Pharmacy, Nagpur on 30th March 2024 at Sardarni Paramjeet Kaur Kalsi Auditorium. The Gratitude Ceremony was held to express appreciation and acknowledge the contributions of Dr. A. M. Ittadwar who have significantly impacted our institution. The event was attended by Hon'ble Management, faculty, council members, family members and friends of Dr. Ittadwar Sir. The ceremony began with opening remarks from Dr. Sharad Manapure, who welcomed everyone and highlighted the importance of gratitude in building a supportive and cohesive institution. A video has been showed to the audience about the journey of Dr. Ittadwar Sir which inspires the audience. After that former president of The Sikh Education Society S. Gurbuxsinghji Lamba and the current president of The Sikh Education Society S. Amritpalsinghji Alag felicitated Dr. Abhay Ittadwar with Shawl, floral bouquet and gifts. Faculty teaching and non-teaching, family and friends present their views and some memories of Dr. Ittadwar after that Dr. Ittadwar shared his thoughts, memories and his journey and inspires the audience by sharing precious thoughts. An interactive session was also conducted with Dr. Ittadwar and Mrs. Seema Ittadwar mam which was hosted by Mr. Sharad Manapure, and many heartwarming and inspiring stories were shared, highlighting the diverse ways gratitude has touched the lives of audience. The ceremony concluded with closing remarks from Mr. Sharad Manapure, who thanked everyone for their participation and contributions. After the formal ceremony, attendees enjoyed refreshments and informal networking. This provided an opportunity for further interaction and the strengthening of community bonds.



Industrial Visits

In the months of July & August 2023, industrial visit was organized by training and placement cell under the guidance of Dr. S. B. Waikar in the following companies: 1) Aroma Herbs & Ayurvedic Industries PVT.LTD MIDC Hingana, Nagpur. Total 40 students were participated 2) Pathak Ayurvedic Pharmacy, Nagpur Total 55 students were visited

Tree Plantation

Under the guidance of Dr. S. B. Waikar, Tree plantation drive was taken on 15/08/2023 in the premises of Gurunanak College of Pharmacy. Total 220 medicinal plants were planted in the herbal drug garden and in the college premises.

Marathi Bhasha Din

Marathi Bhasha Din (Marathi Language Day) was celebrated on 27/02/2014 in Gurunanak College of Pharmacy, Nagpur to honour the rich heritage and cultural significance of the Marathi language. This date marks the birth anniversary of Vishnu Vaman Shirwadkar, also known as Kusumagraj, a renowned Marathi poet, playwright, and novelist who made significant contributions to Marathi literature. Dr. Abhay M. Ittadwar and Mr. Sharad Manapure addresses the students about the importance of marathi bhasha din the work of Kavi Kusumagraj.

TEACHER'S DAY CELEBRATION

The Teacher's Day program was held on 27th September 2023, in lieu of 5th September which could not be held due to unavoidable circumstances. Principal Dr. Abhay Ittadwar, Mr. Sharad Manapure, Dr.Sheelpriya Walde and Mr. Vipin Pande lighted the lamp in front of Goddess Saraswati and Dr. Sarvapalli Radhakrishnan. All the faculty members had been felicitated by the students by giving gifts. The constitution of Student's Council was announced on the same day and Mr. Siddhant Mendhe and Mr. Tejas Suruse had been nominated as President and as General Secretary of Student's Council.



SHIV JAYANTI CELEBRATION

Chhatrapati Shivaji Maharaj Jayanti was organized by the student's council on 19/02/2024 in the premises of GNCP. The program was started by garlanding the frame of Chhatrapati Shivaji Maharaj and by lighting by lamp. Then, the aarti was performed and the Maharashtra geet was sung by all the teaching, non-teaching and students. After that the cleaning staff of GNCP was felicitated by giving the gifts to them. Principal Dr. Abhay Ittadwar presented their views about Chhatrapati Shivaji maharaj. Dr. Sharad Manapure, student's Council Incharge enlightens students by recalling the historical moments of Chhatrapati Shivaji Maharaj.



INTERNAL TRAINING WORKSHOP FOR LABORATORY SUPPORTING STAFF

Internal training workshop for laboratory supporting staff was organized on 14th Oct 2023. Dr. Govind K. Lohiya delivered the session on "stockbook entries and inventory management"



PARTICIPATION IN INTER COLLEGIATE SPORTS EVENTS ORGANIZED BY RTMNU, NAGPUR

Under the guidance of Mr. V. B. Pande, Sport incharge, students of GNCP participated in Various Sports Events organised by RTMNU Men's football event was organised on 25/10/23, total 16 students participated

- Chess event was organised on 16/10/23 and 17/10/23, total 12 students participated
- Mens Table Tennis event was organised on 16/10/23, total 04 students participated
- Men's Cricket event was organised on 22/03/24, total 16 students participated

ZEST & ZENITH 2023-2024 (SPORT & CULTURAL EVENTS)

Annual social gathering Zest & Zenith 2024 (Sport & cultural events) was celebrated from 12th Feb 2024 to 20th Feb 2024. Various events like best out of waste, mehendi, rangoli, singing, dance (solo, duet group), fashion show etc. were the part of Zenith. In Zest various games like cricket, throwball, volleyball, badminton, table tennis, carom, chess, tug of war etc. were organized. The function was inaugurated by Sardar Gurbax Singh Lamba, President, Sikh Education Society, Sardar Sarabjit Singh Kalsi, General Secretory and CEO, The Sikh Education Society, Dr. A. M. Ittadwar, Principal, Gurunanak College of Pharmacy, Nagpur. Sport committee and Student council of GNCP were work hard for the success of events.



PERSONALITY DEVELOPMENT TOUR TO UTTARAKHAND



An educational tour and industrial visit was organized for M. Pharm (Quality Assurance) students on 31 Jan - 8 Feb, 2024 to Uttarakhand. Students visited the facility of Akums Drugs & Pharmaceuticals Ltd., Sidkul, Haridwar and got the insights of the pharmaceutical industry. The plant was specially dealing with production of various formulations in its world class facility.

In this event students also visited to various scenic and historic places in Uttarakhand, which includes Nainital Lake, Naini devi temple at Nainital, Neem Karoli Baba Ashram (Kainchi Dham) at Bhowali, Har Ki Paudi at Haridwar, Ram jhula, Triveni Ghat at Rishikesh, Kempty falls and Mall Road at Mussorie, Surkhanda Devi and Tehri Dam.

Total 23 students with faculty members Dr. Sheelpriya Walde, Dr. Suhas Padmane and Mr. Krishnakant Bhelkar attended the same. EDUCATIONAL TOUR TO PUNJAB AND HIMANCHAL PRADESH



An educational tour and industrial visit was organized for B. Pharm and M. Pharm students on 2nd March to 12th March, 2024 to Punjab and Himanchal Pradesh. In this event students various scenic and historic places in Punjab and Himanchal Pradesh along with an industry visit at Chandigarh. Places Students visited includes Golden Temple and Jaliyan wala Bagh at Amritsar, Waghah Border, Atari, Nek Chand's Rock Garden and Sukhna Lake at Chandigarh, Hidimba temple, Ghatotkwacha tree, Shree Vashishta temple, Solang Valley, Mall road at Manali, Gurudwara Sahib, Manikaran temple of Lord Shiva, Prachin Shriram Temple and Hot water springs at Manikaran, St. John's Church, Kailash view point, Dalhousie, Mini Switzerland at Khajjiar. Along with this students also enjoyed river rafting at Kullu. Total 90 students with faculty Dr. Krishnakant Bhelkar attended and enjoyed this.

MEMORANDUM OF UNDERSTANDING WITH RANJEET DESHMUKH DENTAL COLLEGE AND RESEARCH CENTRE, NAGPUR



Gurunanak College of Pharmacy signed a memorandum of understanding with Ranjeet Deshmukh Dental college and Research Centre, Nagpur in 11 October, 2023. Dr. Usha Radke, Dean; Dr. Mukta Motwani, Professor of oral medicine; and Dr. Abhay Kolte, Head R&D were present for the occasion. Dr. Vaishali Kilor, Associate Professor (Pharmaceutics) and Dr. Nidhi Sapkal, Professor (Pharmaceutical Chemistry) represented Gurunanak College of Pharmacy. This MoU will strengthen the collaborative research activities between both the institutes. GNCP is engaged in the development of new products for oral care. The clinical studies of these products can be conducted at RD Dental college, thus, attempting to bring the medicine from bench to bedside.

MEMORANDUM OF UNDERSTANDING WITH HEARTFULNESS EDUCATION TRUST

GNCP, Nagpur has signed an MOU with Heartfulness Education Trust on 19/04/2023. This agreement is valid for a period of three years. Under the purview of this official association, Heartfulness Education Trust will be offering various programs like Heartfulness relaxation, meditation, wellness workshops, leadership mastery, stress management etc. Dr Vaishali Kilor and Mrs. Shobha Ubgade represented GNCP while Mr. Sanjeev Sharma and Ms. Sudha Peri represented Heartfulness Education Trust.

GUEST LECTURE ORGANIZED



Guest lecture on "QbD and ICH Q8 guideline

A guest lecture on "QbD and ICH Q8 guideline: An industry perspective "was organized for M.Pharm. (Pharmaceutics) students on 13th March 2024. Guest speaker was **Dr. Minal Bonde**, Manager, R&D, ODS division, Zim Laboratories Ltd., Kalmeshwar.

Guest lecture on Career Counselling and GPAT Exam Guidance

Guidance and Counselling Cell for Higher Education GNCP conducted guest lecture of Prof. Peeyush Jaiswal, a renowned educator and mentor, on "Career Counselling and GPAT Exam Guidance" for final-year B. Pharm students on O3rd October 2023. During the session, he provided an overview of various career opportunities in the pharmaceutical industry, including higher education, research, regulatory affairs, marketing, and entrepreneurship.

Prof. Peeyush Jaiswal emphasized the importance of aligning personal interests with career goals and motivated students with real-life examples and success stories of her previous students. His interdisciplinary teaching style made the session engaging and easy to understand.

The activity was coordinated by Dr. Sumit Arora, Assistant Professor, Gurunanak College of Pharmacy, Nagpur.



Guest lecture on 'Pharmaceutical Industry Awareness'

An In-house lecture on the topic 'Pharmaceutical Industry Awareness' was conducted for B. Pharm Final Year students on 18 August 2023 by Ms. Vaishnavi Khante. The session included the organization and working of an industrial set up along with guidance on career opportunities available across private and government sectors. Around 54 students and faculty members attended the session.



Guest lecture on 'Youth Empowerment" A Guest lecture on 'Youth Empowerment' took place on 14/9/2023. Mr. Vaibhav Nimbalkar, D.I.G., Western Sector HQ, CRPF, Navi Mumbai was the guest speaker who enthralled the audience with his knowledge, discipline and valour. The event witnessed huge participation from students and staff members crossing the total mark of 250 attendees. The event motivated all the students for upskilling their life and future endeavors.

- A guest lecture on the topic "Various job opportunities in the field of pharmaceutical marketing, clinical data management and nutraceuticals" was organized on 21/10/2023.
 Mr. Krishna Thakrani, Therapy Manager, Parenteral Nutrition of Fresenius Kabi India PVT. LTD, Pune was a guest speaker. He is an alumnus of Gurunanak College of Pharmacy and passed out his B Pharm in 2019. The lecture was arranged by Dr. S.B. Waikar, in-charge, Training and Placement cell, GNCP, Nagpur
- Ms. Sonakshi Singh, Senior safety drug scientist (drug safety department) in FORTREA Ltd., Bangalore and an alumnus B Pharm 2018 passout delivered a guest lecture on the topic "Various job opportunities in the field of pharmacovigilance, Drug Safety, clinical trials in the pharmaceutical field" on 21/09/2023. The lecture was arranged by Dr. S.B. Waikar, in-charge, Training and Placement cell, GNCP, Nagpur
- A guest lecture was organised on 15/07/2023. The topic was "Various job opportunities in the field of Sales, Distribution & Marketing, in the pharmaceutical field" by Mr. Tushar Pathak, a Export Sales Executive in Hindustan Unilever Ltd., Mumbai. He is an alumnus of Gurunanak College of Pharmacy and passed out his B Pharm in 2017. The lecture was arranged by Dr. S.B. Waikar, in-charge, Training and Placement cell, GNCP, Nagpur

Interaction with Alumni

An interaction with student alumni of the college was arranged on 29/12/2023 in Sardarni Paramjeet Kaur Kalsi Auditorium. In this event Mr. Ashwini Sharma (B. Pharm 1010-14, M. Pharm Pharmaceutical Chemistry 2014-16) currently working as Technical Officer at University of Southern Queensland and Mr. Abhishek Sharma (B. Pharm 2013-17) currently pursuing Ph. D. in Medical Chemistry at Duquesne University, Pittsburgh, USA (Having industry experience of about 1.5 years as quality control chemist, Nikita Pharmaceutical Specialities Limited Nagpur) interacted with the students of B. Pharm. Ms. Sheherbano Hussain and Ms. Devashri Shendre interviewed them asking questions about their professional journey. Students also asked their queries about overseas education. The program was coordinated by Dr. K. B. Bhelkar.





Parent Teacher Meet

Parent teacher meet for B. pharm students was organized on 13th Apr, 2024. In this, event Dr. A. M. Ittadwar and Dr. M. M. Bodhankar addressed parents emphasizing communication between parents and teachers as a need of time. Parents also interacted with all subject teachers of their wards and discussed about progress and other academic issues with them. The program was coordinated by Dr. K. B. Bhelkar

Gurunanak College of Pharmacy, Nagpur

RESEARCH & DEVELOPMENT ACTIVITIES

PATENTS GRANTED

- Daud Anwar, Sapkal Nidhi, Bonde Minal. Thin Film Formulations of 4-Diphenylmethyl-1-Piperazine Derivatives and Their Salts. Indian Patent no. 466750. Date of grant: 7.11.2023
- Dr. Nidhi Sapkal were co-inventor of the granted Indian patent entitled, "Pharmaceutical Microemulsion Immobilized In A Thin Polymer Matrix And Methods Of Making Them; (Patent No. 546778 on 31/07/2024).
- Dr. Nidhi Sapkal were co-inventor of the granted Indian patent entitled, "Water Soluble Pharmaceutical Film With Enhanced Stability; (Patent No. 526043 on 14/03/2024).
- Dr. Nidhi Sapkal were co-inventor of the granted Indian patent entitled, "Improved Mucosal Delivery Of Vitamin B12; (Patent No. 525982 on 14/03/2024).
- Dr. Vaishali Kilor and Dr. Nidhi Sapkal were co-inventor of the granted Indian patent entitled, "Composition Of Active Ingredient Loaded Edible Ink And Methods Of Making Suitable Substrates For Active Ingredient Printing On Orodispersible Films; (Patent No. 515171 on 26/02/2024).
- Dr. Nidhi Sapkal were co-inventor of the granted Canadian patent entitled, "Water Soluble Pharmaceutical Film With Enhanced Stability; (Patent No. 2927334 on 29/08/2023).

RESEARCH PROJECTS

- Gurunanak College of Pharmacy completed its DST-SERB project successfully. The project was for the development of medicine printing technology, and it was granted under the IRRD scheme of SERB, Govt. of India. The expert review committee rated the project as "very good" with grade 8.1/10. During this project, a scale-up model of the printing machine was developed that can print the medicine loaded films in the industrial set up. The scale-up model was installed at Zim Laboratories Limited. The sanctioned project cost was 67 lakhs. Dr. Nidhi Sapkal and Dr. Vaishali Kilor were the principal investigators of this project.
- Rashtrasant Tukadoji Maharaj Nagpur University, through the University Research Project Scheme, has granted financial assistance of Rs. 3,00,000/-(Three Lakh only) on 30th March 2024, for the research project titled "Development of a novel multicomponent formulation for the treatment of neurodegenerative diseases," spanning two years from April 2024 to March 2026. Dr. S. K Arora and Dr. N. P Sapkal are working as Principal investigator and Co-investigator respectively.

BOOK CHAPTER

 Vaishali Kilor, Vipin Dhote, Nidhi Sapkal and Shagufta Khan "Targeted breast cancer treatment: progress and challenges" in Nanotechnology Principles in Drug Targeting and Diagnosis edited by Dr. Mahendra Rai, Dr. Shagufta Khan, Dr. Aarti Belgamwar. Elsevier; 1st edition - July 26, 2023; ISBN: 978-0-323-91763-6; eBook ISBN: 978-0-323-98348-8.

RESEARCH PUBLICATIONS

- Sapan Shah, Dinesh Chaple, Vijay H Masand, Magdi E A Zaki, Sami A Al-Hussain, Ashish Shah, Sumit Arora, Rahul Jawarkar, Mohammad Tauqeer. In silico study to recognize novel converting enzyme-I inhibitors by 2 D QSAR and constraint based molecular simulations. Journal of Biomolecular structure and Dynamics, 42(5); 2024; 2211-2230. doi: 10.1080/07391102.2023.2203261. Scopus, Web of Science
- Pranali Y. Umredkar, Vijay M. Tangde, Niraj T. Khaty, Samiksha S. Yelekar, Nidhi Sapkal, Sudhakar S. Dhondge. Unraveling the Solvation Behavior of Levocetirizine Dihydrochloride: Insights from Volumetric, Acoustic, Viscometric, and Electronic Absorption Studies in Aqueous L-Proline and L-Valine Solutions. Journal of Chemical & Engineering Data, 69(3), 2024, 915-932. Scopus
- Aayushi Yelgurwar, Chhavi Rahangdale, Divyani Dahake, Harshada Borekar, Mitali Bodhankar. Use Of Potato and Curry Leaves for Anti-Ageing Cream. Int. J. of Pharm. Sci., 2024, 2 (6), 623-633. https://doi.org/10.5281/zenodo.11609456. Google Scholar
- S. G. Khudare, S. R. Yende and N. P. Sapkal. Determination of total phenolic and total flavonoid contents of Jasminum grandiflorum Lin. GSC Advanced Research and Reviews, 2023, 17(01), 088-095. Google scholar
- V. J. Tiwari and A. M. Ittadwar, Semantic Study of Sanskrit Names of Indian Medicinal Plants. Bulletin of Regional Natural History (BORNH). 2024, 4, 16-24. https://doi.org/10.6093/2724-4393/10948

RESEARCH PRESENTATIONS

 Priya Dule, Vaishali Kilor, Nidhi Sapkal. The Application of Quality by Design (QBD) Approach in the formulation and Optimization of oral Films. ISBN :978-81-966001-4-3; Conference proceedings of the International Conference on Recent Advances in Science, Technology, Engineering, Management and Social Science (RASTEMS-2023 Online); organised by New Research and Innovation Society in association with Addis Ababa Science and Technology University, Biotechnology and Bioprocess Centre of Excellence, Ethiopia and Karpaga Vinayaga College of Engineering and Technology, Chengalpattu, India held during, 06-08, October, 2023.

- Abhijeet Shinde, Ashika Rewatkar, Vaishali Kilor. International Conference and workshop on "Regulatory Milestones in Drug Development and Advancing Paediatric Drug Development in South Asia" organized by SAC-ACCP and VNS College of Pharmacy, Bhopal on 21st and 22nd July 2023.
- Apurva Fasate, Vaishali Kilor. International Conference and workshop on "Regulatory Milestones in Drug Development and Advancing Paediatric Drug Development in South Asia" organized by SAC-ACCP and VNS College of Pharmacy, Bhopal on 21st and 22nd July 2023.
- Abhijeet Shinde, Ashika Rewatkar, Vaishali Kilor. Annual Conference on "Role of Clinical Pharmacology in the Development of Transformative Medicine in This Era of Digital and Artificial Intelligence Technologies" organized by SAC-American College of Clinical Pharmacology from 4th-6th Jan. 2024 at Hyderabad
- Apurva Fasate, Vaishali Kilor. at Annual Conference on "Role of Clinical Pharmacology in the Development of Transformative Medicine in This Era of Digital and Artificial Intelligence Technologies" organized by SAC- American College of Clinical Pharmacology from 4th-6th Jan. 2024 at Hyderabad
- Kunjan Faye, Subhash Yende presented paper on To investigate antiarthritic activity of diosmine at INNOVATE 2024 organized by BITS Pilani on 07/03/24 to 09/03/2024.
- Kunjan Faye, Subhash Yende presented paper titled Anti oral ulcer activity of Jasmin on rat at national seminar on Rasabhishak 2024: formulation to prescription, Organized by Govt. Ayurved College, Nagpur on 24/02/2024 and 25/02/2024.

GUEST LECTURE DELIVERED/ RESOURCE PERSON

- Dr. Sheelpriya Walde attended 2nd women leadership conclave organized by APTI Women forum on 29 & 30 March 2024 at Radisson Blu, Udaipur.
- Dr. Sheelpriya Walde has successfully completed the training of Trainers (TOT) conducted by Maharashtra State Pharmacy Council's Drug Information Centre on 30th June 2024 at Nagpur.
- Dr. Sheelpriya Walde participated in the Webinar on "Cyber Hygienic for Women" on the eve of International Women's Day organized by APTI Women's forum Webinar zone and Bombay College of Pharmacy on 7th March 2024.
- Dr. V A. Kilor worked as Jury member for Poster presentation at SAC ACCP's conference at Radisson Bhopal on 22nd July 2023.
- Dr. V A. Kilor delivered a guest lecture on "Medicine Printing: Challenges and Opportunities" at International Conference on Biomedical Materials and Technology, Organized by Center for Biomedical Engineering, Indian Institute of Technology, Delhi, India., 28th Nov.2023.
- Dr. V A. Kilor delivered a lecture as Resource person on topic "Role of PK prediction in formulation Development" during a certificate course on "Application of Computational Techniques in Drug Design and Development" organized by Gurunanak College of Pharmacy, Nagpur during 21st to 25th December 2023.
- Dr. N. P. Sapkal delivered lecture at international conference organized by SAC-ACCP (an affiliate of American College of Clinical Pharmacology) & VNS Group of Institutions on the topic, "Pediatric formulation development: experiences with oral thin films" on 22 July, 2023 at Bhopal.
- Dr. N. P. Sapkal delivered lecture at International Conference on Biomedical materials and technology organized by Indian Institute of Technology, Delhi on the topic, "Regulatory aspects in printed and personalized medicines", on 28 November, 2023 at IIT, Delhi.
- Dr. Govind K. Lohiya delivered the guest lecture in faculty development program on "Innovative Teaching Learning and Research" organized by Shree Sainath College of Pharmcy, Nagpur on 27th July 2023.
- Dr. Govind K. Lohiya, called and present as a Chief guest for flag hosting ceremony in in 77th Independence Day ceremony on 15th Aug 2023 at St. Joseph school, Nagpur.
- Dr. S. K. Arora delivered a session on "Generating Citations and Bibliography using Zotero and aspects of plagiarism" at MBA Department, C P and Berar College, Nagpur as a part of Pre PhD Course Work on 31st October 2023.
- Dr. S. K. Arora conducted training sessions for Medical Representative's at Gosphel Shield life Sciences Private Limited on "Effective Marketing Strategies including pathophysiology of diseases and mechanism of action of Bioactive" on O3rd November 2023.
- Dr. S. K. Arora empowered participants with the practical skills of "Molecular Docking using Chimera Software" through a lecture and interactive hands on training sessions during Gurunanak College of Pharmacy's organized "Application of Computational Techniques in Drug Design and Development" Certificate Course from December 21st-25th, 2023.

- Dr. S. K. Arora delivered a talk on "Zotero: Reference Management Software" at Research Vidya Platform created by Dr. Ashish Linge on 22nd December 2023.
- Dr. S. K. Arora invited as a Resource Person for the talk on "Utilizing Chimera and Autodock Vina Software for Molecular Docking," as a part of the "Molecules to Manuscript: Exploring Molecular Docking, ADMET Screening, and Publishing Strategies" Course, hosted by Quick Learn 360 from Jan 15th to19th, 2024 and May 13th to 17th, 2024.
- Dr. Subhash R. Yende Delivered a lecture on "Basic Techniques used in animal experimentation" in orientation program for M. Pharm III semester at GNCP, Nagpur on 02/08/2023.
- Dr. Subhash R. Yende Delivered a talk on 'Toxicity Studies' in workshop on Animal handling and preclinical research organized by Dadasaheb Balpande College of Pharmacy, Besa, Nagpur on 23/08/2023.
- Dr. Subhash R. Yende Delivered a lecture on 'Preclinical experimentation Designing to report writing' at Seth Govind Raghunath Sable College of pharmacy, Saswad, Pune on 04/09/2023.
- Dr. Subhash R. Yende Delivered a guest lecture on "Preclinical Experimentation and toxicity studies" at CME programme for Teachers of Agad-tantra organized by Shri Ayurved Mahavidhyalaya, Nagpur on 09/09/2023.
- Dr. Subhash R. Yende Participated as resource person and delivered a talk on "Designing of an Animal Experiment" in Research Methodology workshop organized by MUHS, Nashik at Shri Ayurved Mahavidhyalaya, Nagpur on 28/09/2023.
- Dr. Subhash R. Yende Contributed as a resource person and delivered talk on "Pharmacokinetic and Toxicity profiling" in a certificate course on CADD, organized at GNCP, Nagpur on 24/12/2023.
- Dr. Subhash R. Yende Delivered a talk on "Ethical practices in Animal experimentation" in a certificate course on Elevating ethical practices in pharmaceutical sciences Affiliated by RTMNU and organized by Dadasaheb Balpande College of Pharmacy, Besa, Nagpur on 05\01\2024.
- Dr. Subhash R. Yende invited as a Resource Person for the talk on Pharmacokinetic and Toxicity profiling as a part of the "Molecules to Manuscript: Exploring Molecular Docking, ADMET Screening, and Publishing Strategies" Course, hosted by Quick Learn 360 from 15/01/24 to 19/01/24.
- Dr. Subhash R. Yende Participated as Chairperson for scientific paper presentation competition during national seminar on Rasabhishak 2024: formulation to prescription, Organized by Govt. Ayurved College, Nagpur on 24/02/2024.
- Dr. Subhash R. Yende participated as an evaluator for best research project competition organized by Dadasaheb Balpande College of Pharmacy, Besa, Nagpur on 16/03/2024.
- Dr. Subhash R. Yende invited as a Resource Person for the talk on Pharmacokinetic and Toxicity profiling as a part of the "Molecules to Manuscript: Exploring Molecular Docking, ADMET Screening, and Publishing Strategies" Course, hosted by Quick Learn 360 from 13/05/24 to 17/05/24.

CONFERENCE/WORKSHOP/SDP/QIP/SHORT-TERM TRAINING ATTENDED BY FACULTIES

- Dr. V A. Kilor attended an International Conference and workshop on "Advances in Pediatric Drug Development in South Asia" and "Regulatory milestones in Drug Development", held on July 21-22, 2023 in Bhopal organized by VNS group of institutions Faculty of pharmacy, in association with the SAC -ACCP, South Asian College of Clinical Pharmacology.
- Dr. V A. Kilor attended APTI sponsored National Conference on "Nanotechnology in Healthcare" organized by Department of Pharmaceutics and IQAC of the Institute on 6th and 7th October 2023.
- Dr. V A. Kilor attended International Annual Conference on "Role of Clinical Pharmacology in the Development of Transformative Medicine in This Era of Digital and Artificial Intelligence Technologies" organized by SAC- American College of Clinical Pharmacology from 4th-6th Jan. 2024 at Hyderabad.
- Dr. V A. Kilor attended National level online Faculty development Program (e-FDP) on "Harnessing Artificial Intelligence to Revolutionize pharmaceutical education and Research" on 9th and 10th August 2024.
- Dr. N. P. Sapkal attended 14th International Annual conference of South Asian College of Clinical Pharmacology (SAC-ACCP), 4-6 January, 2024, Hyderabad
- Dr. M. M Bodhankar participated in FDP on Pedagogical Strategies for fostering innovations and startups: Empowering Educators organized by G H Raisoni University, Saikheda and DBCOP, Nagpur on 18/03/24 to 23/03/2024.



Beloved Non-teaching staff of Gurunanak college of pharmacy **Mr. Sulabh Bawangade** passed away on dated 04/06/2024. He was working as peon at Gurunanak college of pharmacy since 09/11/2006 to 04/06/2024



Vision: To create globally competent pharmacists

The Sikh Education Society's

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